IN THE CLAIMS:

Please amend claims 1, 8-12 and 26 of the above-identified application as follows.

1. (Currently Amended) A multi-layer process for producing structural cementitious panels, comprising:

(a.) providing a moving web;

(b.) one of depositing a first layer of individual, loose fibers upon the web and

(c.) depositing a layer of settable slurry upon the web;

(d.) depositing a second layer of individual, loose fibers upon the slurry;

(e.) actively embedding said second layer of individual, loose fibers into the slurry; and

(f.) repeating steps (c.) through (e.) until the desired number of layers of settable fiber-enhanced slurry is obtained.

2. (Original) The process of claim 1 further including forming said multi-layered board with a forming device.

3. (Original) The process of claim 1 further including cutting the multi-layered fiber-enhanced slurry into board lengths.

4. (Original) The process of claim 1 wherein said steps (c.)-(e.) are repeated at least three times so that the board ultimately has at least four layers.

5. (Original) The process of claim 1 wherein the thickness of each layer produced by steps (c.)-(e.) is in the approximate range of .05 -.20 inches.

6. (Original) The process of claim 1 wherein said fibers have a tex value of equal to or greater than 30.

7. (Original) The process of claim 1 wherein said fibers have a tex value of equal to or greater than 70.

8. (Currently Amended) The process of claim 1 ~~wherein~~ further including feeding said slurry ~~is fed~~ onto said web using a nip roll feeder having a metering roll and a thickness control roll.

9. (Currently Amended) The process of claim 1 ~~wherein embedding step is performed by an embedment device which is self-cleaning~~further including performing said active embedding step by creating a kneading action in said slurry.

10. (Currently Amended) The process of claim 1 ~~wherein~~further including providing a self-cleaning embedment device for performing said active embedding step ~~is achieved by a pair of intermeshed disk-bearing rotating shafts~~.

11. (Currently Amended) The process of claim 1 ~~wherein~~ further including performing said active embedding step ~~is achieved~~ by multiple applications of kneading force.

12. (Currently Amended) The process of claim 1 ~~wherein the last of the layers is produced~~ further including producing the last of the layers with an upper deck and a reverse rotating web which deposits a layer of slurry and fibers with a smooth outer surface upon the moving, multi-layered slurry.

13. (Original) The process of claim 1 further including providing a carrier layer to said moving web.

14. (Original) The process of claim 13 wherein said carrier layer is release paper.

15. (Original) The process of claim 1 wherein the fibers constitute at least 1.5% by volume of said slurry layers.

16. (Original) The process of claim 1 wherein the fibers constitute approximately 3% by volume of said slurry layers.

17. (Original) The process of claim 1 wherein the respective proportion of fibers in the slurry layers produced by steps (b.) through (e.) is represented by a projected fiber surface area fraction preferably less than 0.65 and most preferably less than 0.45.

18. (Withdrawn) A structural cementitious panel produced according to the process of claim 1.

19. (Withdrawn) The structural cementitious panel of claim 18 wherein said panel is comprised of four layers, each of which is produced by steps (c.) through (e.).

20. (Withdrawn) The structural cementitious panel of claim 18 wherein the respective proportion of fibers in the slurry layers produced by one of steps (b.) through (e.) and steps (c.) through (e.) is represented by a projected fiber surface area fraction preferably less than 0.65 and most preferably less than 0.45.

21. (Withdrawn) An apparatus for producing a multi-layered structural cementitious panel, comprising:

a conveyor-type frame supporting a moving web;

a first loose fiber distribution station in operational relationship to said frame and configured for depositing loose fibers upon said moving web;

a first slurry feed station in operational relationship to said frame and configured for depositing a thin layer of settable slurry upon said moving web so that said fibers are covered;

a second loose fiber distribution station in operational relationship to said frame and configured for depositing loose fibers upon said slurry;

an embedment device in operational relationship to said frame and configured for generating a kneading action in said slurry to embed said fibers into said slurry; and

additional sequences of said slurry feed stations, said fiber deposition stations and embedment devices provided in operational relationship to said frame in sequence to provide a structural cementitious panel having multiple layers, each of which with embedded fibers.

22. (Withdrawn) The apparatus of claim 21 further including a cutting device for separating panels produced on said frame.

23. (Withdrawn) The apparatus of claim 21 further including a second moving web disposed above said web and moving in an opposite direction, said second moving web being provided with an upper fiber deposition station; an upper slurry feed station; a second upper fiber deposition station; and an embedment device for depositing a covering layer in inverted position upon said moving slurry.

24. (Withdrawn) A structural cementitious panel consisting of multiple layers, each layer created by depositing a layer of settable slurry upon a moving web,

depositing fibers upon the slurry and embedding the fibers into the slurry such that each said layer is integrally formed with the adjacent layers.

25. (Withdrawn) The structural cementitious panel of claim 22 wherein each said layer of said panel has a thickness in the range of .05 -.20 inches.

26. (Currently Amended) A process for making fiber-embedded cementitious panels, comprising:

using the formula:

$$S_{f,l}^{P} = \frac{4V_f * t_{s,l}}{\pi d_f (1 - V_f)}$$

for determining a projected fiber surface area fraction of fibers in the resulting panel, said process including:

providing a desired slurry volume factor V_f;

providing a desired panel thickness;

adjusting at least one of the fiber diameter d_f and the number of fiber layers represented by $t_{s,l}$ so that the fiber surface area fraction $S_{f,l}^{P}$, is within desired parameters.

27. (Original) The process of claim 26 wherein the fibers constitute at least 1.5% by volume of slurry layers used to produce the panels.

28. (Original) The process of claim 26 wherein the fibers constitute approximately 3% by volume of slurry layers used to produce the panels.

29. (Original) The process of claim 26 wherein said projected fiber surface area fraction is preferably less than 0.65 and most preferably less than 0.45.

30. (Original) The process of claim 26 further including the step of producing the panel by creating multiple layers of fiber-incorporated slurry, wherein the thickness of each said layer is in the approximate range of .05 -.20 inches.

31. (Original) The process of claim 26 wherein said fibers have a tex value of equal to or greater than 30.

32. (Original) The process of claim 26 wherein said fibers have a tex value of equal to or greater than 70.